

Form PTO-1449

INFORMATION DISCLOSURE CITATION
IN AN APPLICATION

(Use several sheets if necessary)

Docket Number 514012000400

Application Number 09/973,473

Applicant

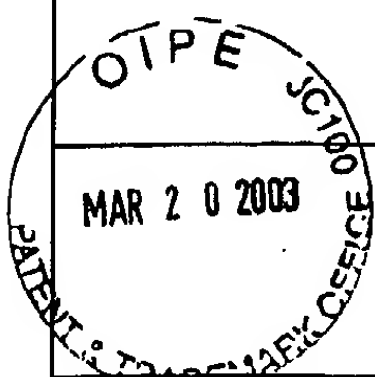
Nahum SONENBERG et al.

Filing Date October 9, 2001

Group Art Unit 1614-1636

Mailing Date March 11, 2003

M. Marich



U.S. PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Name	Class	Subclass	Filing Date If Appropriate
mm	1.	07/28/1987	4,683,195	Mullis et al.			
mm	2.	07/28/1987	4,683,202	Mullis			
mm	3.	01/24/1989	4,800,159	Mullis et al.			
mm	4.	10/23/1990	4,965,188	Mullis et al.			
mm	5.	01/22/1991	4,987,071	Cech et al.			
mm	6.	01/14/1997	5,593,974	Rosenberg et al.			
mm	7.	01/27/1998	5,712,384	Symonds et al.			
mm	8.	05/26/1998	5,756,291	Griffin et al.			
mm	9.	08/11/1998	5,792,613	Schmidt et al.			
mm	10.	02/23/1999	5,874,231	Sonenberg et al.			
mm	11.	03/09/1999	5,879,938	Usman et al.			

RECEIVED
MAR 21 2003
TECH CENTER 1600/2900

FOREIGN PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Country	Class	Subclass	Translation YES NO
mm	12.	05/13/1993	WO 93/08845	WIPO PCT			
mm	13.	07/21/1994	WO 94/15646	WIPO PCT			
mm	14.	04/18/1996	WO 96/11266	WIPO PCT			
mm	15.	10/24/1996	WO 96/32966	WIPO PCT			
mm	16.	12/19/1996	WO 96/41169	WIPO PCT			

OTHER DOCUMENTS

(including author, title, Date, Pertinent Pages, Etc.)

Examiner Initials	Ref. No.	Title
mm	17.	Altmann, M. et al. (1997). "A novel inhibitor of cap-dependent translation initiation in yeast: p20 competes with eIF4G for binding to eIF4E," <i>EMBO Journal</i> 16(5):1114-1121.
mm	18.	Blackshear, P.J. et al. (1997). "Disruption of the Gene Encoding the Mitogen-regulated Translational Modulator PHAS-I in Mice," <i>J. Biol. Chem.</i> 272(50):31510-31514.

EXAMINER: To Be Assigned M. Marich

DATE CONSIDERED: 10/12/04

EXAMINER: Initial if citation considered, whether or not the citation conforms with MPEP 609. Draw a line through the citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

RECEIVED

MAR 21 2003

PTO/SB/08 (2-92)

Sheet 2 of 4

Form PTO-1449

Docket Number 514012000

CENTER 1A

Application Number 09/973,473

INFORMATION DISCLOSURE CITATION
IN AN APPLICATION

(Use several sheets if necessary)

Applicant

Nahum SONENBERG et al.

Filing Date October 9, 2001

Group Art Unit 1614 1636

Mailing Date March 11, 2003

19. Boss, O. et al. (1998). "The uncoupling proteins, a review," *Eur. J. Endocrinol* 139:1-9.
20. Bragado, M. et al. (1998). "Regulation of Protein Synthesis by Cholecystokinin in Rat Pancreatic Acini Involves PHAS-I and the p70 S6 Kinase Pathway," *Gastroenterology* 115:733-742.
21. Coleman, D.L. et al. (1973). "The Influence of Genetic Background on the Expression of the Obese (Ob) Gene in the Mouse," *Diabetologia* 9:287-293.
22. Enerbäck, S. et al. (1997). "Mice lacking mitochondrial uncoupling protein are cold-sensitive but not obese," *Nature* 387:90-94.
23. Ewart-Toland, A. et al. (1999). "Effect of the Genetic Background on the Reproduction of Leptin-Deficient Obese Mice," *Endocrinology* 140(2):732-738.
24. Fletcher, C. M. et al. (1998). "4E Binding Proteins Inhibit the Translation Factor eIF4E without Folded Structure," *Biochemistry* 37:9-15.
25. Frederickson, R.M. et al. (1991). "Phosphorylation of Eukaryotic Translation Initiation Factor 4E is Increased in Src-Transformed Cell Lines," *Mol. Cell. Biol.* 11(5):2896-2900.
26. Gingras, A-C. et al. (1996) "Activation of the Translational Suppressor 4E-BP1 Following Infection with Encephalomyocarditis Virus and Poliovirus," *Proc. Natl. Acad. Sci. USA* 93:5578-5583.
27. Gingras, A-C. et al. (1999). "eIF4 Initiation Factors: Effectors of mRNA Recruitment to Ribosomes and Regulators of Translation," *Annu. Rev. Biochem.* 68:913-963.
28. Guerra, C. et al. (1998). "Emergence of Brown Adipocytes in White Fat in Mice is Under Genetic Control," *J. Clin. Invest.* 102(2):412-420.
29. Haghighat, A. et al. (1995). "Repression of cap-dependent translation by 4E-binding protein 1: competition with p220 for binding to eukaryotic initiation factor-4E," *EMBO Journal* 14(22):5701-5709.
30. Hanks, A. et al. (1995). "Rescue of the En-1 Mutant Phenotype by Replacement of En-1 with En-2," *Science* 269:679-682.
31. Hu, C. et al. (1994). "Molecular cloning and tissue distribution of PHAS-I, an intracellular target for insulin and growth factors," *Proc. Natl. Acad. Sci. USA* 91:3730-3734.
32. Hummel, K.P. et al. (1972). "The Influence of Genetic Background on Expression of Mutations at the Diabetes Locus in the Mouse. I. C57BL-KsJ and C57BL-6J Strains," *Biochemical Genetics*. 7:1-13.
33. Jacobson, A. (1996). "Poly(A) Metabolism and Translation: The Closed Loop Model" Chapter 16 in *Translational Control*. J. W. B. Hershey, M. B. Mathews, and N. Sonenberg eds., Cold Spring Harbor Laboratory Press: Cold Spring Harbor, NY, pp. 451-480.
34. Jain, R.G. et al. (1997). "Ectopic Expression of Hel-N1, an RNA-Binding Protein, Increases Glucose Transporter (GLUT1) Expression in 3T3-L1 Adipocytes," *Mol. Cell. Biol.* 17(2): 954-962.
35. Kimball, S. et al. (1996). "Insulin and Diabetes Cause Reciprocal Changes in the Association of eIF-4E and PHAS-I in Rat Skeletal Muscle," *Am. J. Physiol.* 270:C705-C709.
36. Kopecky, J. et al. (1995). "Expression of the Mitochondrial Uncoupling Protein Gene from the aP2 Gene Promoter Prevents Genetic Obesity," *J. Clin. Invest.* 96:2914-2923.
37. Lawrence, J.C. et al. (1997). "PHAS/4E-BPs as Regulators of mRNA Translation and Cell Proliferation," *Trends in Biochemical Science, Elsevier Publication*, 22:345-349.

EXAMINER:

M. Morich

DATE CONSIDERED:

10/12/04

EXAMINER: Initial if citation considered, whether or not the citation conforms with MPEP 609. Draw a line through the citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

Form PTO-1449

Docket Number 514012000400

Application Number 09/973,473

INFORMATION DISCLOSURE CITATION
IN AN APPLICATION

(Use several sheets if necessary)

Applicant

Nahum SONENBERG et al.

Filing Date October 9, 2001

Group Art Unit ~~1677~~ 1636

Mailing Date March 11, 2003

38. Lazaris-Karatzas, A. et al. (1990). "Malignant transformation by a eukaryotic initiation factor subunit that binds to mRNA 5' cap," *Nature* 345(6275):544-547.
39. Lazaris-Karatzas, A. et al. (1992). "Ras Mediates Translation Initiation Factor 4E-Induced Malignant Transformation," *Genes Dev.* 6:1631-1642.
40. Lin, T.A. & Lawrence, Jr., J.C. (1996). "Control of the Translational Regulators PHAS-I and PHAS-II by Insulin and cAMP in 3T3-L1 Adipocytes," *J. Biol. Chem.* 271(47):30199-30204.
41. Lin, T.A. et al. (1994). "PHAS-I as a Link Between Mitogen-Activated Protein Kinase and Translation Initiation," *Science* 266:653-656.
42. Lowell, B. B. et al. (1993). "Development of obesity in transgenic mice after genetic ablation of brown adipose tissue," *Nature* 366:740-742.
43. Mader, S. et al. (1995). "The Translation Initiation Factor eIF-4E Binds to a Common Motif Shared by the Translation Factor eIF-4γ and the Translational Repressors 4E-Binding Proteins," *Molecular and Cell Biology* 15(9):4990-4997.
44. Marcotrigiano, J. et al. (1997). "Cocrystal Structure of the Messenger RNA 5' Cap-Binding Protein (eIF4E) Bound to 7-methyl-GDP," *Cell* 89:951-961.
45. Marcotrigiano, J. et al. (1999). "Cap-Dependent Translation Initiation in Eukaryotes Is Regulated by a Molecular Mimic of eIF4G," *Molecular Cell* 3:707-716.
46. Matsuo, H. et al. (1997). "Structure of translation factor eIF4E bound to m⁷GDP and interaction with 4E-binding protein," *Nature Struct. Biol.* 4(9):717-724.
47. Minich, W.B. et al. (1994). "Chromatographic Resolution of *in vivo* Phosphorylated and Nonphosphorylated Eukaryotic Translation Initiation Factor eIF-4E: Increased Cap Affinity of the Phosphorylated Form," *Proc. Natl. Acad. Sci. USA* 91:7668-7672.
48. Morgenstern, J.P. & Land, H. (1990). "Advanced Mammalian Gene Transfer: High Titre Retroviral Vectors with Multiple Drug Selection Markers and a Complementary Helper-Free Packaging Cell Line," *Nucleic Acids Res.* 18(12):3587-3596.
49. Niwa, H. et al. (1991). "Efficient Selection for High-Expression Transfectants with a Novel Eukaryotic Vector," *Gene* 108:193-199.
50. Pause, A. et al. (1994). "Insulin-dependent stimulation of protein synthesis by phosphorylation of a regulator of 5'-cap function," *Nature* 371:762-767.
51. Poulin, F. et al. (1998). "4E-BP3, a New Member of the Eukaryotic Initiation Factor 4E-binding Protein Family," *J. Biol. Chem.* 273(22):14002-14007.
52. Pyronnet, S. et al. (1999). "Human eukaryotic translation initiation factor 4G (eIF4G) recruits Mnk1 to phosphorylate eIF4E," *EMBO J.* 18(1):270-279.
53. Ramírez-Solis, R. et al. (1993). "Gene Targeting in Embryonic Stem Cells," *Methods Enzymol.* 225:855-878.
54. Robertson, E.J. (1987). "Embryo-Derived Stem Cell Lines" Chapter 4 *In Tetracarcinomas and Embryonic Stem Cells: A Practical Approach*. Robertson, E.J. ed. IRL Press: Oxford, pp. 71-112.
55. Rousseau, D. et al. (1996). "The eIF4E-Binding Proteins 1 and 2 are Negative Regulators of Cell Growth," *Oncogene* 13:2415-2420.

EXAMINER:

W. Minich

DATE CONSIDERED:

10/12/04

EXAMINER: Initial if citation considered, whether or not the citation conforms with MPEP 609. Draw a line through the citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

Form PTO-1449

Docket Number 514012000400

Application Number 09/973,473

INFORMATION DISCLOSURE CITATION IN AN APPLICATION

(Use several sheets if necessary)

Applicant

Nahum SONENBERG et al.

Filing Date October 9, 2001

Group Art Unit 1614-1636

Mailing Date March 11, 2003

56. Sibia, M. & Wagner, E.F. (1995). "Strain-Dependent Epithelial Defects in Mice Lacking the EGF Receptor," *Science* 269:234-238.
57. Sonenberg, N. (1996). "mRNA 5' Cap-binding Protein eIF4E and Control of Cell Growth" Chapter 8 in *Translational Control*. J. W. B. Hershey, M. B. Mathews and N. Sonenberg eds., Cold Spring Harbor Laboratory Press: Cold Spring Harbor, NY, pp. 245-270.
58. Sonenberg, N. and Gingras, A-C. (1998). "The mRNA 5' cap-binding protein eIF4E and control of cell growth," *Curr. Opin. Cell Biol.* 10:268-275.
59. Surwit, R. S. et al. (1995). "Differential Effects of Fat and Sucrose on the Development of Obesity and Diabetes in C57BL/6J and A/J Mice," *Metabolism* 44(5):645-651.
60. Takeuchi, T. et al. (1999). "Real-Time Detection System for Quantification of Hepatitis C Virus Genome," *Gastroenterology* 116:636-642.
61. Tsukiyama-Kohara, K. et al. (1992). "Internal Ribosome Entry Site Within Hepatitis C Virus RNA," *J. Virol.* 66(3):1476-1483.
62. Tsukiyama-Kohara, K. et al. (1996). "Tissue Distribution, Genomic Structure, and Chromosome Mapping of Mouse and Human Eukaryotic Initiation Factor 4E-Binding Proteins 1 and 2," *Genomics* 38:353-363.
63. Wang, W. et al. (1998). "The Phosphorylation of Eukaryotic Initiation Factor eIF4E in Response to Phorbol Esters, Cell Stresses, and Cytokines Is Mediated by Distinct MAP Kinase Pathways," *J. Biol. Chem.* 273(16):9373-9377.
64. Whalen, S.G. et al. (1996). "Phosphorylation of eIF-4E on Serine 209 by Protein Kinase C is Inhibited by the Translational Repressors, 4E-Binding Proteins," *J. Biol. Chem.* 271(20):11831-11837.
65. Wu, Z. et al. (1999). "Mechanisms Controlling Mitochondrial Biogenesis and Respiration through the Thermogenic Coactivator PGC-1," *Cell* 98:115-124.
66. Wu, Z., et al. (1999). "Transcriptional activation of adipogenesis," *Curr. Opin. Cell Biol.* 11:689-694.
67. Yasui, K. et al. (1998). "The Native Form and Maturation Process of Hepatitis C Virus Core Protein," *J. Virol.* 72(7):6048-6055.

EXAMINER:

M. Morishita

DATE CONSIDERED:

10/12/04

EXAMINER: Initial if citation considered, whether or not the citation conforms with MPEP 609. Draw a line through the citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.